



# ICC Forest Mitigation Update for FCAC

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# Overview

- **MD Reforestation Law**
- **ICC Forest Impacts**
- **Forest Mitigation Project Goals**
- **Project-wide Forest Mitigation**
- **On-Site Planting**
- **Off-Site Forest Mitigation Implementation**
- **Off-Site Planting**

# MD Reforestation Law

- ♦ MD Reforestation Law 1989 (amended 1990)
- ♦ DNR Forest Service provides review and approval
- ♦ Clearing one acre or more of forest for state funded highway projects
- ♦ Plant on public land within same county and/or watershed
- ♦ 1:1 planting ratio within 1 year of project completion



Contract A between Shady Grove Road and Redland Road

# ICC Forest Impacts

- **ROD Impacts – 745.86 acres**
- **Total Forest Impacts – 696.2 acres**
  - ◆ **Contract A – 191.1 acres**
  - ◆ **Contract B – 198.3 acres**
  - ◆ **Contract C – 209.3 acres**
  - ◆ **Contract D/E – 97.5 acres\***
    - ▶ **\*Figures based on RFP plans, actual design build numbers likely less**
  - ◆ **Impacts in Rock Creek, Anacostia, and Patuxent River Watersheds:**
    - ▶ **SPA impacts**
      - **Paint Branch – approx. 75 acres**
      - **Rock Creek – approx. 85 acres**



**Aerial view of Redland Road**



# Forest Mitigation Project Goals

- **Quickly establish native forest for:**

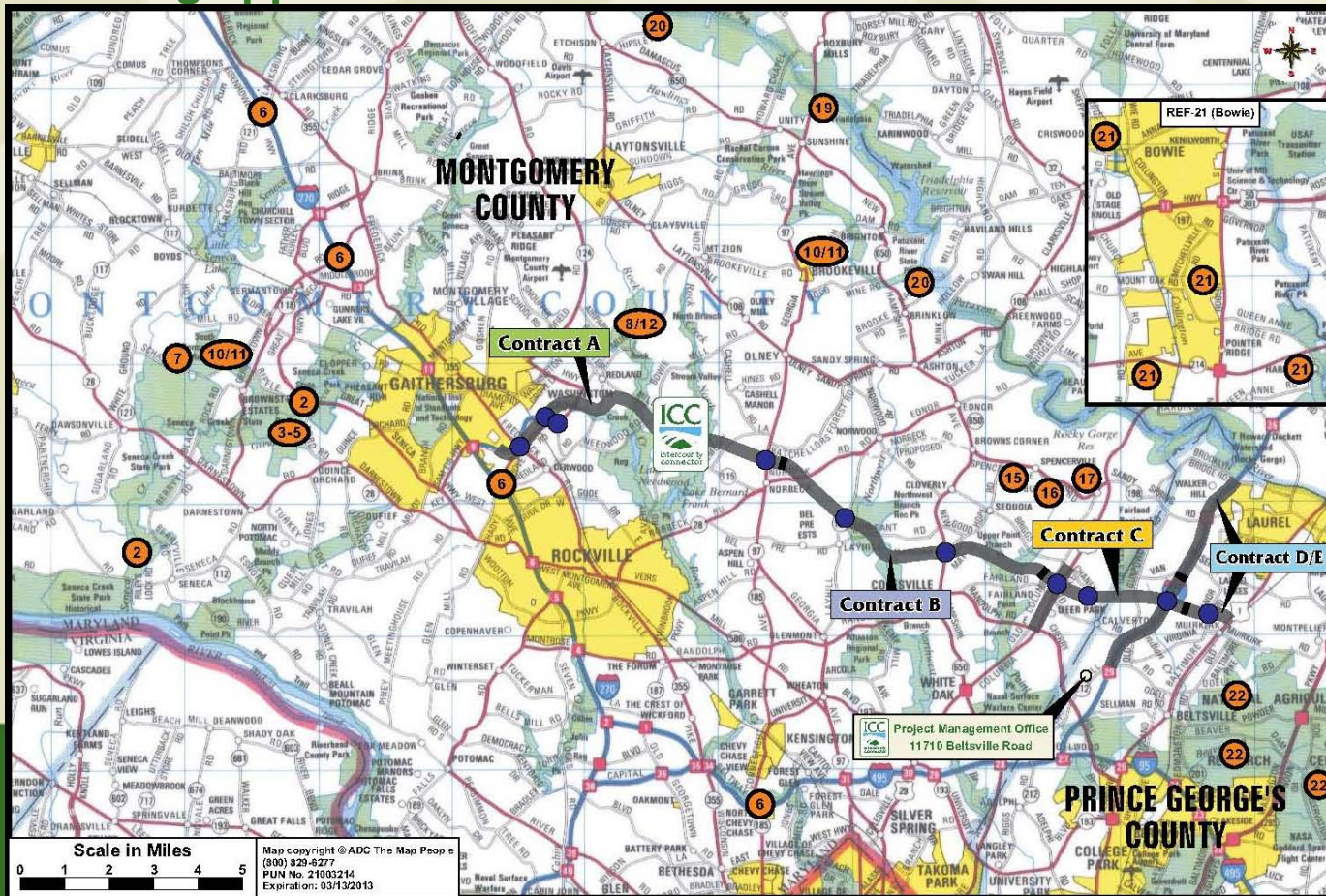
- ◆ **Wildlife habitat**
- ◆ **Water quality improvement**
- ◆ **Erosion control**
- ◆ **Pollution reduction**
- ◆ **Carbon storage**
- ◆ **Aesthetics**
- ◆ **Recreation**
- ◆ **Thermal heating reduction**





# Project-wide Forest Mitigation

- On-Site total 235 acres planted by DB Contractors
- Required Off-Site total approximately 461 acres
  - ◆ Currently scheduled off-site total 576 acres (115 acre surplus)
  - ◆ Planting approx. 140 acres within SPAs





# On-Site Planting

- **Approximately 47,000 trees planted**
  - ♦ **Contract A ~14,920 trees (74.6 acres)**
  - ♦ **Contract B ~ 15,880 trees (79.4 acres)**
  - ♦ **Contract C ~ 10,440 trees (52.2 acres)**
  - ♦ **Contracts D/E ~ 5,780 trees (28.9 acres) – under development**
- **2-year warranty period with maintenance & monitoring**



# On-Site Planting

- **Zones: Reforestation, Forest Edge, Roadside Screening**
- **Common Species List**
  - ♦ **Shade Trees - Red Maple, River Birch, Persimmon, Tulip Poplar, Black Gum, Sycamore, White Oak, Northern Red Oak, Pin Oak, American Basswood**
  - ♦ **Flowering trees – Redbud, Flowering Dogwood, Black Cherry, Staghorn Sumac, Common Witchhazel**
  - ♦ **Evergreen trees – American Holly, Eastern Red Cedar, Norway Spruce, Eastern White Pine, Leyland Cypress**
  - ♦ **Shrubs – Red Chokeberry, Winterberry, Fragrant Sumac, Arrowwood Viburnum, Blackhaw Viburnum**

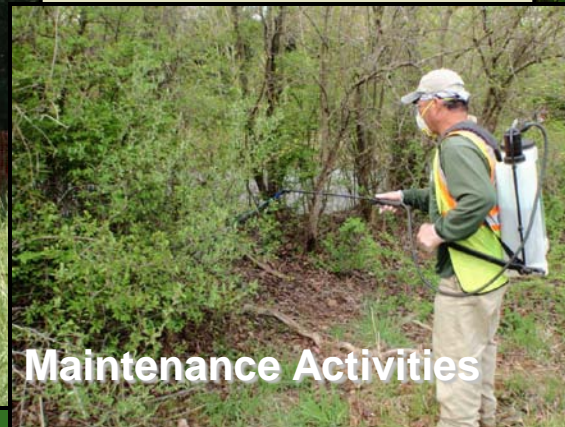


# Off-Site Forest Mitigation Implementation

- **Site preparation and planting**
  - ◆ **Weed/invasive species control**
  - ◆ **Native tree installation**
    - ▶ **Seedlings @ 350/acre**
    - ▶ **5' Ht. CG @ 200/acre; 2.5" cal. B&B @ 20/acre**
  - ◆ **Deer protection installation**
- **Follow-up maintenance and site monitoring**
  - ◆ **2-5 years of maintenance (90% year 1, 80% year 2, 75% year 5)**
  - ◆ **Bi-annual inspections (or as needed)**



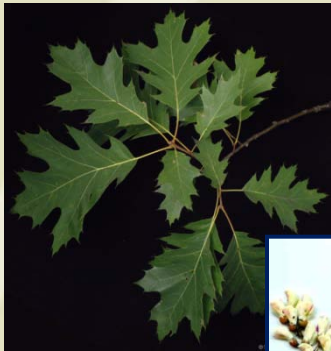
**Follow-up weed control required**



**Maintenance Activities**

# Off-Site Species Selection

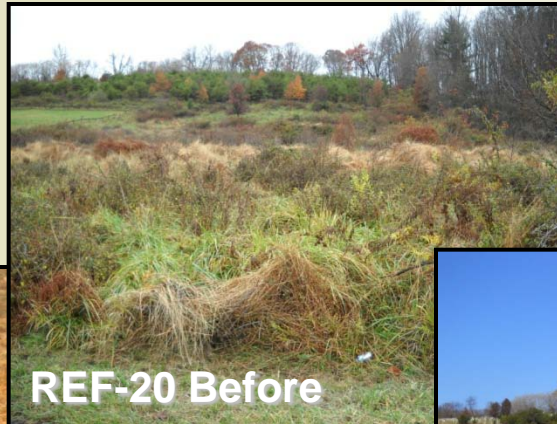
- Mimic native, adjacent forested areas
- Commercially available
- Common species selection
  - ♦ Upland – Red Oak, Tulip Poplar, Red Maple, White Oak, Redcedar, Persimmon, Black Locust, Staghorn Sumac
  - ♦ Floodplain – River Birch, Sycamore, Pin Oak, Musclewood, Willow Oak, Black Gum





# MD DNR FM Sites

- **REF-2-5 Seneca Creek State Park Sites (Seneca Creek Watershed)**
  - ♦ REF-2 planted 10,080 seedlings in spring 2009 (28.8 acres)
  - ♦ REF-3-5 planting 23,100 seedlings in spring 2012 (66.5 acres)
- **REF-20 Patuxent River State Park Sites (Patuxent River Watershed)**
  - ♦ Planted 13,510 seedlings in fall 2010 (38.6 acres)





# WSSC FM Sites

- **REF-17 Santini Road Site (Rocky Gorge Dam Watershed)**
  - ♦ **SHA-owned site to be deeded to WSSC**
  - ♦ **Planted 3,535 seedlings in fall 2009 (10.1 acres)**
- **REF-19 Triadelphia Reservoir Sites (Brighton Dam Watershed)**
  - ♦ **Planted 11,980 seedlings in fall 2009 (34.2 acres)**



# M-NCPPC FM Sites

- **REF-7 Casey Property (Seneca Creek Watershed)**
  - ♦ **SHA-owned site to be deeded to M-NCPPC**
  - ♦ **Planted 21,384 trees in fall 2010 (97.2 acres)**
  - ♦ **Nominated for 2011 MDQI Award**
- **REF-8/12 Rock Creek Stream Valley/Ag History Farm Park (Rock Creek Watershed)**
  - ♦ **Planting 17,160 trees in fall 2012 (78 acres)**
  - ♦ **Upper Rock Creek SPA**



**REF-7 Before**



**REF-7 After**



# M-NCPPC FM Sites (cont'd)

- **REF-10/11 Reddy Branch/South Germantown Park (Rock Creek and Seneca Creek Watersheds)**
  - ♦ **Planted 3,344 trees in fall 2011 (15.2 acres)**
- **REF-15 Southern Asia/McNeil (Anacostia Watershed)**
  - ♦ **SHA-owned site to be deeded to M-NCPPC**
  - ♦ **Planted 3,564 trees in spring 2011 (16.2 acres)**
  - ♦ **Upper Paint Branch SPA**
- **REF-16 Peach Orchard/Allnut (Anacostia Watershed)**
  - ♦ **SHA-owned site to be deeded to M-NCPPC**
  - ♦ **Planting 9,922 trees in fall 2012 (45.1 acres)**
  - ♦ **Upper Paint Branch SPA**





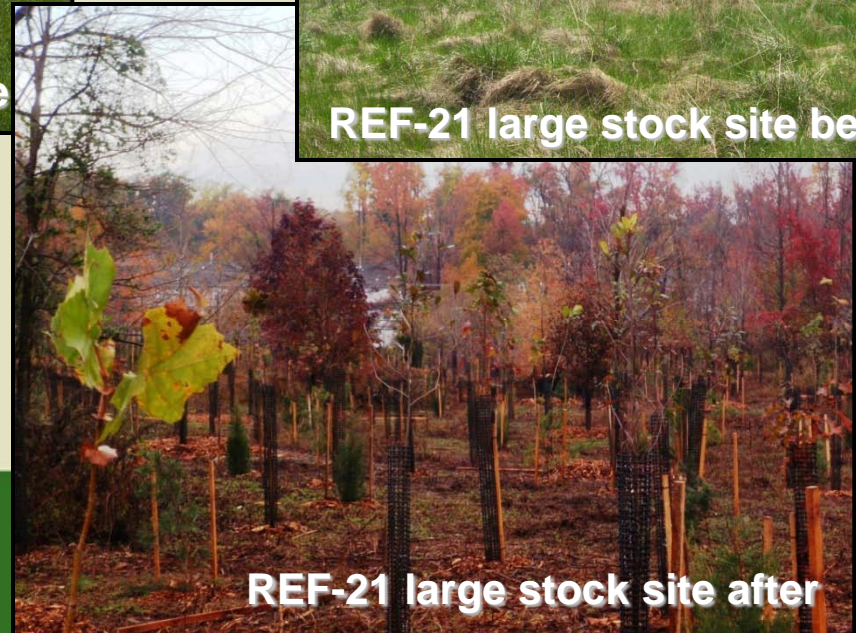
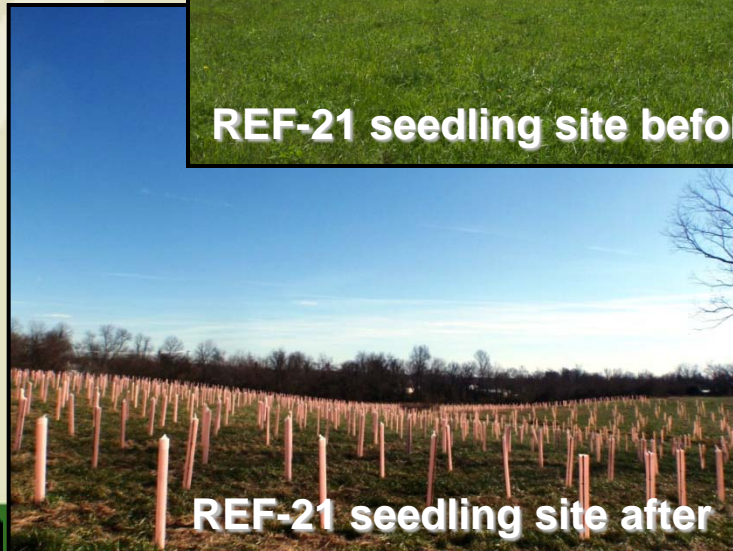
# SHA ROW FM Sites

- **REF-6 Right of Way (Rock Creek and Potomac River Watersheds)**
  - ♦ I-270/I-495 interchanges
  - ♦ Planted 6,755 seedlings in spring 2010 (19.3 acres)



# City of Bowie Sites

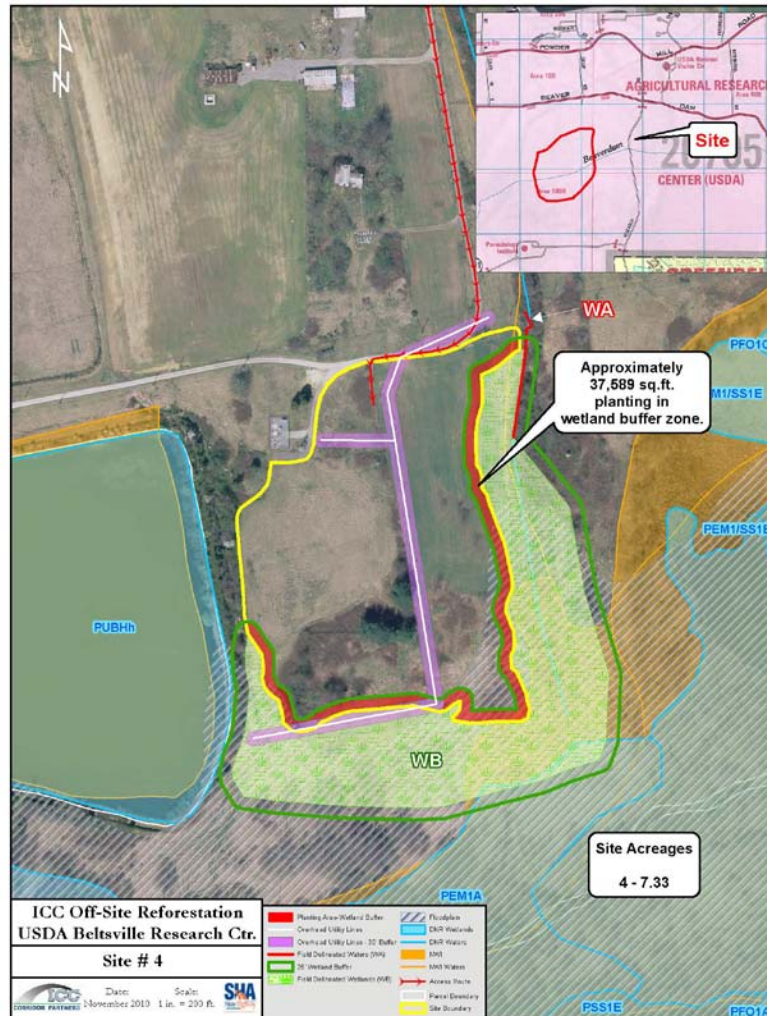
- **REF-21 Sites (Patuxent River Upper and Western Branch Watersheds)**
  - ♦ **Planted 7,805 seedlings and 4,246 trees in fall 2011 (41.6 acres)**





# USDA-BARC Sites

- **REF-22 Sites (Anacostia Watershed)**
  - ◆ **Planting 14,560 trees in fall 2012 (41.6 acres)**





# Questions?